

placed by an office computer or the like. Besides the present invention is applicable also to a case in which the data of different kinds are transmitted through different transmission channels.

Also the signal compression can be achieved not only by the modified Huffman method but also by other methods, such as a two-dimensional compression for example the modified READ (Relative Element Address Designate) method.

The present invention has thus far been explained by certain embodiments thereof, but the present invention is not limited to such embodiments but is subject to various modifications and variations within the scope and spirit of the appended claims.

CM What is claimed is:

1. A data processing system comprising:
image data output means for outputting image data;
code data output means for outputting groups of code data, the groups collectively representing a font pattern such as a character or a symbol; and
send out means for sending out to a common signal circuit the image data from said image data output means and the code data from said code data output means,
said image data output means outputting the image data to said send out means in units of a first predetermined number of lines, and said code data output means outputting to said send out means a group of code data representative of a second predetermined number of lines of the font pattern, wherein the second predetermined number of lines is equal to the first predetermined number of lines.
2. A system according to claim 1, wherein said image data output means outputs encoded image data.
3. A system according to claim 2, wherein the encoded image data represents a density pattern.
4. A system according to claim 1, wherein the image data comprises color image data.
5. A system according to claim 1, wherein each group of code data includes a position code representing a part of the font pattern corresponding to the first predetermined number of lines of image data.
6. A system according to claim 1, wherein said signal circuit comprises a communication line, and said send out means comprises transmission means for transmitting data through said communication line.
7. A system according to claim 1, wherein the image data comprises image data subjected to a signal compression process.
8. A system according to claim 1, wherein each group of code data comprises an ASCII code.
9. A data processing system comprising:
input means for inputting data received from a signal circuit;
separating means for separating the received data into image data and into a group of code data representing a part of a font pattern such as a character or a symbol;
image data process means for processing the image data separated by said separating means;
code data process means for processing the code data separated by said separating means; and
output means for outputting the processed image data from said image data process means and the processed code data from said code data process means.

12. Image data process means processing the image data in units of a first predetermined number of lines, and

said code data process means outputting to said output means one of a plurality of groups of font data representing a second predetermined number of lines of the font pattern corresponding to the part of the font pattern, said groups of font data collectively representing the font pattern.

wherein the second predetermined number of lines is equal to the first predetermined number of lines.

10. A system according to claim 9, wherein the image data is encoded image data, and said image data process means decodes the encoded image data into dot data.

11. A system according to claim 10, wherein the encoded image data represents a density pattern.

12. A system according to claim 9, wherein the image data comprises compressed image data, and said image data process means expands the compressed image data.

13. A system according to claim 9, wherein the image data comprises color image data.

14. A system according to claim 9, wherein the group of code data includes a position code representing a part of the font pattern corresponding to the first predetermined number of lines of image data.

15. A system according to claim 14, wherein the position code is part of an address code of a character generator.

16. A system according to claim 9, wherein said image data process means outputs dot data to said output means, and wherein said output means comprises combination means for combining the dot data and the font data and for outputting the combined dot and font data.

17. A system according to claim 16, wherein said output means further comprises record means for recording the combined dot and font data.

18. A system according to claim 9, wherein a first discrimination code is attached to the image data and a second discrimination code is attached to the group of code data, and wherein said separating means separates the received data on the basis of the first and second discrimination codes.

19. A system according to claim 18, wherein the first discrimination code attached to the image data includes color information.

20. A system according to claim 9, wherein said signal circuit comprises a communication line, and said input means comprises receive means for receiving data through the communication line.

21. A data processing system comprising:

a transmission unit including:

image data output means for outputting image data in units of a first predetermined number of lines.
code data output means for outputting one of plurality of groups of code data, the groups collectively representing a font pattern such as a character or a symbol, each group of code data representing a second predetermined number of lines of the font pattern, the second predetermined number of lines being equal to the first predetermined number of lines, and

transmission means for transmitting the image data from said image data output means and the code data from said code data output means through a common communication circuit; and

a reception unit including:

receive means for receiving the image data and the code data from the common communication circuit.

separating means for separating the data received by said receive means into image data and code data,

image data process means for processing the separated image data in units of the first predetermined number of lines,

code data process means for processing the separated code data, and

output means for outputting the processed image data from said image data process means and the processed code data from said code data process means.

22. A system according to claim 21, wherein said image data output means outputs encoded image data.

23. A system according to claim 22, wherein the encoded image data represents a density pattern.

24. A system according to claim 21, wherein the image data comprises color image data.

25. A system according to claim 21, wherein each group of code data includes a position code representing a part of the font pattern corresponding to the first predetermined number of lines of image data.

26. A system according to claim 21, wherein the image data comprises image data subjected to a signal compression process.

27. A system according to claim 21, wherein each group of code data comprises an ASCII code.

28. A system according to claim 21, wherein the image data is encoded image data, and said image data process means decodes the encoded image data into dot data.

29. A system according to claim 28, wherein each group of code data includes a position code representing a part of the font pattern corresponding to the first determined number of lines of image data.

30. A system according to claim 29, wherein said code data process means comprises a character generator and reads out from said character generator font data corresponding to the second predetermined number of lines of the font pattern represented by the code data, on the basis of the code data.

31. A system according to claim 30, wherein the position code is part of an address code of said character generator.

32. A system according to claim 30, wherein said image data process means outputs dot data to said output means and said code data process means outputs the font data to said output means, and wherein said output means comprises combination means for combining the dot data and the font data and for outputting the combined dot and font data.

33. A system according to claim 32, wherein said output means further comprises record means for recording the combined dot and font data.

34. A system according to claim 21, wherein the image data comprises compressed image data, and said image data process means expands the compressed image data.

35. A system according to claim 21, wherein a first discrimination code is attached to the image data and a second discrimination code is attached to the code data, and wherein said separating means separates the received data on the basis of the first and second discrimination codes.

35. A system according to claim 33, wherein the first discrimination code attached to the image data includes color information.

37. A data processing method comprising the steps of:
producing image data;
producing groups of code data, the groups collectively representing a font pattern such as a character or a symbol;
outputting the image data in units of a first predetermined number of lines; and
outputting one of the groups of code data such that the outputted group of code data represents a second predetermined number of lines of the font pattern, the second predetermined number of lines being equal to the first predetermined number of lines.

38. A method according to claim 37, wherein the image data comprises encoded data.

39. A method according to claim 38, wherein the encoded image data comprises compressed data.

40. A method according to claim 38, wherein the encoded image data represents a density pattern.

41. A method according to claim 38, wherein said image data outputting step and said code data outputting step each include a step of attaching a discrimination code to the image data or to the code data, respectively.

42. A method according to claim 37, wherein the image data comprises color image data.

43. A method according to claim 42, wherein said image data outputting step includes a step of attaching color information to the image data.

44. A method according to claim 37, wherein said code data outputting step includes a step of adding position code information representing a part of the font pattern to the code data.

45. A data processing method comprising the steps of:
producing image data;
producing code data representing a font pattern such as a character or a symbol;
outputting the image data in units of a first predetermined number of lines;
adding to the code data position code information representing a part of the font pattern having a second predetermined number of lines equal to the first predetermined number of lines; and
outputting the code data with the added position code information.

46. A method according to claim 45, wherein the image data comprises encoded data.

47. A method according to claim 46, wherein the encoded image data comprises compressed data.

48. A method according to claim 46, wherein the encoded image data represents a density pattern.

49. A method according to claim 46, wherein the encoded image data comprises color image data.

50. A method according to claim 49, wherein said image data outputting step includes a step of attaching color information to the image data.

51. A method according to claim 46, wherein said image data outputting step and said code data outputting step each include a step of attaching a discrimination code to the image data or to the code data, respectively.

52. A data processing system comprising:
image data output means for outputting image data;
code data output means for outputting code data representing a font pattern such as a character or a

symbol, the font pattern having the same resolution as the image data; and

send out means for sending out to a common signal circuit the image data from said image data output means and the code data from said code data output means.

said image data output means outputting the image data to said send out means in units of a first predetermined number of lines, and said code data output means outputting to said send out means code data representative of a second predetermined number of lines of the font pattern.

wherein the second predetermined number of lines is equal to the first predetermined number of lines.

53. A system according to claim 52, wherein said image data output means outputs encoded image data.

54. A system according to claim 53, wherein the encoded image data represents a density pattern.

55. A system according to claim 52, wherein the image data comprises color image data.

56. A system according to claim 52, wherein the code data includes a position code representing a part of the font pattern corresponding to the first predetermined number of lines of image data.

57. A system according to claim 52, wherein said signal circuit comprises a communication line, and said send out means comprises transmission means for transmitting data through said communication line.

58. A data processing system comprising:
input means for inputting data received from a signal circuit;

separating means for separating the received data into image data and into code data representing a font pattern such as a character or a symbol, the font pattern having the same resolution as the image data;

image data process means for processing the image data separated by said separating means;

code data process means for processing the code data separated by said separating means; and

output means for outputting the processed image data from said image data process means and the processed code data from said code data process means.

said image data process means processing the image data in units of a first predetermined number of lines, and

said code data process means outputting to said output means font data representing a second predetermined number of lines of the font pattern.

wherein the second predetermined number of lines is equal to the first predetermined number of lines.

59. A system according to claim 58, wherein the image data is encoded image data, and said image data process means decodes the encoded image data into dot data.

60. A system according to claim 59, wherein the encoded image data represents a density pattern.

61. A system according to claim 58, wherein the image data comprises compressed image data, and said image data process means expands the compressed image data.

62. A system according to claim 58, wherein the image data comprises color image data.

63. A system according to claim 58, wherein the code data includes a position code representing a part of the font pattern corresponding to the first predetermined number of lines of image data.

64. A system according to claim 63, wherein said code data process means comprises a character generator and reads out from said character generator font data corresponding to the second predetermined number of lines of the font pattern represented by the code data, on the basis of the code data.

65. A system according to claim 63, wherein the position code is part of an address code of a character generator.

66. A system according to claim 58, wherein said image data process means outputs dot data to said output means, and wherein said output means comprises combination means for combining the dot data and the font data and for outputting the combined dot and font data.

67. A system according to claim 66, wherein said output means further comprises record means for recording the combined dot and font data.

68. A system according to claim 58, wherein a first discrimination code is attached to the image data and a second discrimination code is attached to the code data, and wherein said separating means separates the received data on the basis of the first and second discrimination codes.

69. A system according to claim 68, wherein the first discrimination code attached to the image data includes color information.

70. A system according to claim 58 wherein said signal circuit comprises a communication line, and said input means comprises receive means for receiving data through the communication line.

Sub B₂ → 71. An image processing apparatus, comprising:

Sub G1 → supply means for supplying color image information and character code data transmitted through a

common line;

separating means for separating the color image information and character code data supplied from said supply means; and

means for developing and combining the color image information and the character code data separated by said separating means, in common color image memory means.

72. An apparatus according to Claim 71, further comprising the color image memory means.

Sub B₃ 62. 73. An apparatus according to Claim 72, wherein said color image memory means includes Y-, M-, C- and K-memories.

Sub B₄ 62. 74. An apparatus according to Claim 72, wherein said color image memory means has a capacity of plural lines for each color component.

I 75. An apparatus according to Claim 71, wherein the character code data is of ASCII code.

Sub B₁ 63. 76. An apparatus according to Claim 71, wherein the color image information is of multi-value color image data.

Sub B₆ 63a. 77. An apparatus according to Claim 72, further comprising output means for outputting data stored in said color image memory means to a color printer.

I 78. An apparatus according to Claim 71, wherein the color image information is data read by a color image reader.

I 79. An apparatus according to Claim 71, wherein said supply means is a line data receiving means.

Sub B₇ 80. An image processing method, comprising the steps of:

receiving color image information and character code data through a common line;
separating the received color image information and character code data; and

developing and combining the separated color image information and character code data in common color image memory means.

Sub b₈

⁸²~~81~~. A method according to Claim ⁸¹~~80~~, wherein said color image memory means includes Y-, M-, C- and K- memories.

Sub b₉

⁸³~~82~~. A method according to Claim ⁸¹~~80~~, wherein said color image memory means has a capacity of plural lines for each color component.

⁸⁴~~83~~. A method according to Claim ⁸¹~~80~~, wherein the character code data is of ASCII code.

Sub A₂

84. A method according to Claim 80, wherein the color image information is of multi-value color image data.

Sub b₁₁

85. A method according to Claim 80, comprising the step of outputting data stored in said common color image memory means to a printer.

⁸⁴~~85~~. A method according to Claim 80, wherein the color image information is data read by a color image reader.

Sub E₄

⁸⁰~~87~~. A data processing system comprising:
input means for inputting data received from a communication line;

separating means for separating the received data into image data and into code data representing a font pattern such as a character or a symbol;

image data process means for processing the image data separated by said separating means;

code data process means for processing the code data separated by said separating means; and

output means for outputting the processed
image data from said image data process means and the
processed code data from said code data process means;

wherein the image data comprises color image
data, and

wherein said output means comprises
combination means for combining the processed coded data and
the processed image data in a color memory, and for
outputting the combined data.